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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------------|------------------|
| 10/074,536 | 02/12/2002 | Heather J. Hayes | 5416 | 7241 |
| 7590 | 10/08/2003 | | | |
| Terry T. Moyer P. O. Box 1927 Spartanburg, SC 29304 | | | EXAMINER BEFUMO, JENNA LEIGH | |
| | | | ART UNIT 1771 | PAPER NUMBER |
| DATE MAILED: 10/08/2003 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/074,536 | HAYES ET AL. | |
| | Examiner | Art Unit | |
| | Jenna-Leigh Befumo | 1771 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1 – 43 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for degrading the first elementary component with acidic solutions, does not reasonably provide enablement for degrading the first elementary component by other means, such as physical means which degrade the fiber by tearing away portions of the material or thermal means which would degrade the fiber by melting the polymer material degrading the fiber structure. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The Applicant does not teach or fairly suggest that the first elementary component can be degraded by means other than treating the fiber with a solution which dissolves or degrades the first component chemically. Other means, such as needling or thermally treating the fiber, would degrade the first component. Needling would physically degrade the fiber component by cutting or tearing away portions of the filament material. And thermally treating the fiber would melt the fiber so that it changes shape and forms bond points with other fibers. Therefore, the term degrading is broader than the chemical degrading using acidic solutions taught in the disclosure.

Claim Rejections - 35 USC § 102

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3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 – 6, 8 – 17, 19 – 28, 30 – 39, and 41 – 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Groten et al. (5,899,785).

Groten et al. discloses a nonwoven fabric comprising very fine continuous filaments produced by separating a multicomponent fiber (abstract). The separated filaments have a size of 0.005 dTex to 2 dTex (abstract). And as shown in Figure 1, a preferred embodiment includes polyester terephthalate (PET) as one component and polyamide 6, also known as Nylon 6. The components are split from each other by mechanical means such as intense needle punching which would inherently degrade all the fibers to some degree (column 2, lines 36 – 40). Additionally, the fabric can be bonded by thermal means which include melting the lower melting point component, which the Nylon 6 component (column 4, lines 47 – 50). Thermally bonding the nonwoven by this process would degrade the Nylon 6 component since these fibers would lose their filament structure to form bond points in the fabric.

Further, Groten et al. teaches that the nonwoven fabric can be chemically treated with a hydrophilic treatment, which would be a soil release agent, or a chemical treatment which would modify the feel of the fabric, which qualifies as a hand-building agent (column 5, lines 3 – 7). Also, Groten et al. teaches that the fabric can be dyed to modify its appearance (column 5, lines 8 – 10). Therefore, claims 1 – 6, 8 – 17, 19 – 28, 30 – 39, and 41 – 43 are anticipated by Groten et al.

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5. Claims 1, 4 – 6, 11, 12, 15 – 17, 22, 34, and 37 – 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Okamoto et al. (4,008,344).

Okamoto et al. discloses a multicomponent fiber comprising a vinyl copolymer component as one component (abstract). The fiber is used to produce a nonwoven fabric produced by needle punching (column 4, lines 45 – 47). The second component used in the multicomponent fiber can be polyester, including PET, and polyolefins (column 8, lines 57 – 65). The final product is produced by dissolving or removing the vinyl copolymer component from the multi component fiber to produce a nonwoven made from fine polyester or polyolefin fibers (column 8, lines 22 – 25). The fibers are preferably less than 0.45 denier (column 17, lines 35 – 36). The nonwoven material can then be dyed (column 18, lines 33 – 38). Finally, fabrics produced from these fibers can be made from spun or continuous filament materials (column 32, lines 63 – 65). Thus, claims 1, 4 – 6, 11, 12, 15 – 17, 22, 34, and 37 – 39 are rejected.

6. Claims 1, 4 – 6, 11, 12, 15 – 17, 22, 23, 26 – 28, 33, 34, and 37 – 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi et al. (4,367,070).

Hayashi et al. discloses a multicomponent fiber comprising an easily alkali-soluble component and a difficultly alkali-soluble component (column 2, lines 19 – 23). The fiber can be used in the form of whole fibers, yarns, staple fibers, and tows, to produce knit, woven and nonwoven fabrics (column 1, lines 65 – 69). In Example 1 the easily alkali-soluble component is a polyester copolymer and the difficultly alkali-soluble component is PET (column 4, lines 35 – 40). The fabric is conventionally dyed after easily alkali-soluble component is reduced (column 4, lines 43 – 45). Further, the microfine fibers produced in Example 3 have a uniform thickness of 0.2 denier (column 5, lines 67 – 68). Finally, the fibers can have a wedge shape as shown in

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Figure 8. Therefore, claims 1, 4 – 6, 11, 12, 15 – 17, 22, 23, 26 – 28, 33, 34, and 37 – 39 are anticipated by Hayashi et al.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 7, 18, 29, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groten et al. or Hayashi et al. in view of Tortora (Understanding Textiles, 4th Edition).

Claims 7, 18, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. in view of Tortora (Understanding Textiles, 4th Edition).

The features of Groten et al., Okamoto et al., and Hayashi et al. have been set forth above. While Groten et al., Okamoto et al., and Hayashi et al. teach the that the fabrics can be dyed, these references fail to teach which types of dyes are used to dye the material. However, as set forth by Tortora (Understanding Textiles, page 422) disperse dyes are the only practical means to dye polyester. Therefore, it would have been obvious to one of ordinary skill in the art to use disperse dyes to dye the polyester fibers in Groten et al., Okamoto et al., and Hayashi et al. since polyester is only dyed by using disperse dyes.

Conclusion

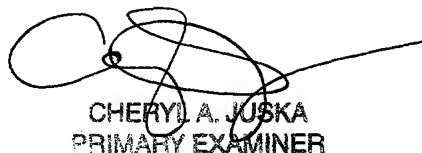
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Befumo whose telephone number is (703) 605-1170. The examiner can normally be reached on Monday - Friday (8:00 - 5:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Jenna-Leigh Befumo
September 28, 2003



CHERYL A. JUSKA
PRIMARY EXAMINER